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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/736,125

12/15/2003

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23446 7590 12/02/2008  
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EXAMINER

TSENG, CHENG YUAN

ART UNIT

PAPER NUMBER

2184

MAIL DATE

DELIVERY MODE

12/02/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/736,125	<b>Applicant(s)</b> PAI ET AL.	
	<b>Examiner</b> CHENG-YUAN TSENG	<b>Art Unit</b> 2184	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 18-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/15/2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Response to Amendment***

1. The objections to drawings, claims, and rejections made under Double Patenting, 35 U.S.C. 112 have NOT been withdrawn due to the amendment filed on September, 12, 2008. No response regarding to those objections and rejections has been received.

***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do **not include the following reference signs mentioned in the description:**

In para. 0019, lines 1-2, the video data 305 is not shown in figure 1.

In para. 0019, line 5, the pixels 315 is not labeled in figure 1.

In para. lines 14-17, the packetized elementary sequence 360 and the transport header 365a are not shown in figures.

In para. 0021, lines 1-2, the transport packers 345b is not found in figure 1.

In para. 0024, lines 4-10, the video elementary stream 355 is now shown in figure 2.

In para. 0025, line 2, the video data 305 is not shown.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following **reference characters not mentioned in the description:**

In fig. 2, there is no description on 470.

In fig. 4, there is no description on circuitry 550 and port 560.

In fig. 5, there is no description about the MUX 555(0)-555(31).

In fig. 5, there is no description about the port 560.

4. The drawings are objected to because of following **informalities:**

In fig. 5, it is unclear if the 611 is connected to input of MUX 555(1).

In fig. 6, block 730, it is unclear the logic of the flowchart. In particular, the 730 is a binary decision block. There is no condition leading to END.

In fig. 6, there should be an arrow from block 730 to block 735.

### ***Claim Objections***

5. Claim 19 is objected to because of the following informalities:

As to claim 19, claim must end with period.

### ***Double Patenting***

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422

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F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claim 18 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 9 of U.S. Patent No. 7,284,072, hereinafter referring to as Pat'072. Although the conflicting claims are not identical, they are not patentably distinct from each other because of following comparisons. Claim 18 is considered obviousness, because it is claiming the same DMA controller as in Pat'072 with broader scope.

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Claim 18 is comparing to claims 9 of Pat'072 in the following table:

Instant Application	Pat'072
(claim 18) <b>a direct memory access controller, said direct memory access controller comprising:</b>	(claim 9) <b>a system for providing a plurality of sequential data words, said system comprising:</b>
<b>a state logic machine for receiving a single command to provide a specific range of a plurality of sequential data words; and</b>	<b>a state logic machine for receiving a command to provide the plurality of sequential data words, wherein ...</b>
<b>a memory controller for fetching a first portion of the range and a second portion of the range after fetching the first portion, wherein the second portion of the range has a lower address than the first portion, after the state logic receives the single command.</b>	<b>a memory controller for fetching a sequential portion of the sequential data words, said sequential portion comprising a first intermediate word, the last word, and one or more data words between the intermediate word and the last word;</b> ...

***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 24-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 24 recites the limitation "**the** predetermined amount" in line 9. There is insufficient antecedent basis for this limitation in the claim.

As to claims 25-27, they are depending on claim 24. Therefore, they are rejected as set forth above accordingly.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless - (a) the invention was known or used by others in this country, or patented or described in a printed



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publication in this or a foreign country, before the invention thereof by the applicant for a patent.

11. Claims 18-27 are rejected under 35 U.S.C. 102(a) as being anticipated by Lee (U.S. Patent 6,842,219), hereinafter referring to as Lee'219.

Referring to claim 18, Lee'219 discloses **a direct memory access controller** (fig. 2, VDEC 203), said direct memory access controller comprising:

**a state logic machine** (fig. 4, state machine 404; and fig. 12, FSM 1206) for receiving **a single command** (fig. 5, control command 501; and fig. 6, command 601) to provide **a specific range** (col. 11, lines 15-19, address range of external memory to be accessed) of **a plurality of sequential data words** (col. 4, lines 24-29, accessed memory blocks has plurality of sequential data words); and

**a memory controller** (fig. 11, buffer controller 1113) for fetching **a first portion** (fig. 11, portion of VLD input buffer 1112) of the range and **a second portion** (fig. 11, portion of VLD input buffer 1112) of the range after fetching the first portion, wherein the second portion of the range has **a lower address than** (col. 10, lines 49-55, backward decoding; col. 15, lines 49-52, MPEG-4 rewinding, earlier frame has lower memory

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address) the first portion, after the state logic receives the single command.

Referring to claim 24, Lee'219 discloses a method for fetching data words, said method comprising:

**receiving a single command** (fig. 5, control command 501; and fig. 6, command 601) to provide **a specific range** (col. 11, lines 15-19, address range of external memory to be accessed) of **a plurality of sequential data words** (col. 4, lines 24-29, accessed memory blocks has plurality of sequential data words), starting **a beginning address** (col. 10, lines 49-55, backward decoding process, earlier packets) and ending at **an ending address** (col. 10, lines 49-55, backward decoding process, later packets);

**fetching a portion** (col. 6, lines 58-60, words), in **a forward address order** (col. 13, lines 33-35, increased address), of the range of **sequential data words** (col. 13, lines 33-35, bit stream), said wherein said portion of the range of sequential data words consists of [the] **a predetermined amount of data words** (col. 6, lines 58-60, four words) that conclude with and precede the ending address, and wherein the predetermined amount of data words is equivalent to **a capacity of a local buffer** (fig. 16, DBC MEM);

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**fetching, in the forward address order, at least one preceding portion** (col. 13, lines 33-35, increased address) of the range of sequential data words, wherein each of the preceding portions of the range of sequential data words consist of the predetermined amount of data words; and

wherein **a one of the preceding portions** (col. 10, lines 49-55, backward decoding; col. 15, lines 49-52, MPEG-4 rewinding and error resilience, the point of error has beginning address) of the range of sequential data words comprises the beginning address, truncating those data words that precede the beginning address.

As to claim 19, Lee'219 discloses the direct memory access controller of claim 18, wherein the memory controller fetches the first portion of the range and the second portion of the range in **a forward address order** (col. 13, lines 33-35, increased address).

As to claim 20, Lee'219 discloses the direct memory access controller of claim 18, further comprising: **a local buffer** (fig. 16, DBC MEM) for storing the first and second portions in **a forward address order** (col. 13, lines 33-35, increased address),

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said local buffer comprising **a plurality of data words** (fig. 16, DBC MEM, four words).

As to claim 21, Lee'219 discloses the direct memory access controller of claim 20, wherein the plurality of data words of the local buffer are **narrower in width** (fig. 16, DBC MEM with 16 bytes vs. input stream in words) than the sequential data words.

As to claim 22, Lee'219 discloses the direct memory access controller of claim 20, further comprising: **a port** (fig. 12, PMU IN) for transmitting the contents of the plurality of data words of the local buffer in **a reverse address order** (fig. 12, reversal logic).

As to claim 23, Lee'219 discloses the direct memory access controller of claim 22, further comprising: **at least one multiplexer** (fig. 12, multiplexers inside 1203) for reversing the bit positions of contents of **at least one of the data words** (fig. 12, B DO[31:0]) of the local buffer.

As to claim 25, Lee'219 discloses the method of claim 24, further comprising: **loading** (fig. 12, load into CLUST DEC 1202)

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the portion and the at least one preceding portions of the sequential data words into the local buffer.

As to claim 26, Lee'219 discloses the method of claim 25, further comprising: **reversing** (fig. 12, reversal logic) the portion and the at least one preceding portions of the range of sequential data words.

As to claim 27, Lee'219 discloses the method of claim 26, further comprising: **reversing** (col. 10, lines 49-55, backward decoding; col. 15, lines 49-52, MPEG-4 rewinding and error resilience, the point of error has beginning address) the truncated one of the preceding portions of the range of sequential data words that comprises the beginning address.

As to claim 28, Lee'219 discloses the direct memory access controller of claim 18, wherein the first portion and the second portion are **adjacent to each other** (fig. 14, bit stream forms the first/second portions, stream has adjacent bits).

***Response to Arguments***

12. Applicant's arguments filed on September 12, 2008, regarding the 35 U.S.C. §102 have been fully considered, but they are not deemed to be persuasive.

**Applicants argue that the cited prior art does not disclose amended independent claims in "fetching ... a second portion of the range after fetching the first portion, wherein the second portion of the range has a lower address than the first portion" and "a single command to provide a specific range of plurality of sequential data words", because Applicants only grasp the figs. 5 and 6 as a view illustrating the structure of a coprocessor operation control command that controls a CODEC block in DSCU described in fig. 6.**

Examiner respectfully disagrees with Applicants, because Lee'219 expressively discloses the command 601 contains fields such as CRd to select external memory as first range, internal DEC memory as second range, and local memory as third possible range as disclosed in col. 11, lines 20-36. It is also noted that the data for CODEC are known as "streaming data", therefore the first and second portions are always adjacent while streaming, regardless reading the data in forward or backward.

***Conclusion***

13. **This action is made final.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire in three months from the mailing date of this action. In the event a first reply is filled within two months of the mailing date of this final action and the advisory action is not mailed until after the end of the three-month shortened statutory period, then the shortened statutory period will expire on the date of the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than six months from the date of this final action.

***Contact Information***

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheng-Yuan Tseng whose telephone number is (571)272-9772. The examiner can normally be reached on 09:00-16:00 Monday-Thursday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Henry Tsai can be reached on

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(571)272-4176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CT/

Patent Examiner, AU 2184

**/Henry W.H. Tsai/**

**Supervisory Patent Examiner, Art Unit 2184**